ESTIMATING FORAGE REQUIREMENTS AND SUPPLIES

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Thus far the major part of the time and effort devoted to studying the livestock feeding problem has been with concentrates. This has been done so much that almost invariably whenever the question of livestock feed arises one automatically thinks of concentrates. Because of this situation there is a considerable amount of information available with regards to supplies and requirements of concentrates but practically none relative to the forage situation other than wild and tame hay supplies.

Since hay and pasture alone account for more than three-fifths of the feed consumed by horses and mules, more than three-fourths of that consumed by dairy cows, four-fifths of that consumed by other cattle; and nine-tenths of the feed consumed by sheep, it appears that the forage portion of the diet would be entitled to some consideration. This is all the more plausible since it is much easier to remedy unfavorable forage supplies than concentrates. In addition, insofar as dairy cattle are concerned, at least half of the concentrate requirements can be replaced by high quality forage at the rate of two units of forage for one unit of concentrates.

Perhaps the reason why so little has been done to develop an ample basis for determining forage requirements and supplies is the inherent difficulty of developing satisfactory technique for making such estimates. However, since forage makes up such an important portion of the livestock feed requirements, and in face of the fact that livestock plays such an important part in our food program, it appears that obstacles however serious should not be allowed to stand in the way of getting at the bottom of the livestock feed problem. This is all the more important since farmers have recently been requested to reduce livestock in order to bring the number more in line with feed supplies, notwithstanding the fact that livestock, dairy, and poultry products constitute an important part of our American diet. These products represent fully two-fifths of our food requirements, three-fifths of our requirements for protein and phosphorus, and four-fifths of our requirements for calcium.

Would it not be a much sounder approach to examine the contents of the forage end of the feed bin to see what might be done to bring it in line, in case it is not already, as well as to find out how such actions as may be taken here would affect the contents of the concentrate end of the bin before curtailing the livestock program and thereby much needed food supplies? This is particularly true since, in many important livestock states, pasture feed can be produced at less than one-half of the cost of corn and at less than one-third the cost of oats. Good hay can be produced there far cheaper than can either corn or oats. The point is, there are many good opportunities to expand hay and pasture production at minimum labor requirements, whereas with feed grains we have more nearly reached our limit in production, and the reserve supplies are dwindling rapidly.

In view of these facts, and because of the importance a good forage crop program plays in any sound conservation program, an effort has been made to get at the root of the forage problem and see just what the conditions really are. In pursuing this study, an effort was made to determine the forage requirements and supplies. The requirements were based on the livestock population as of January 1, 1944, and were determined for each of the major classes of livestock, mules and colts, horses and colts, dairy cattle under two years old, dairy cattle over two years old, beef cattle, and sheep and lambs. The supplies were determined for tame and wild hay, plowable and non-plowable pasture, silage and crop residue such as corn stubble, peanut vines, sugarbeet leaves, oat straw and the like.

In determining the forage requirements, it was assumed that there would be ample supplies of concentrates for each of the various classes of livestock and that the feed fed would be properly balanced as between forage and concentrates. It was further assumed that four tons of hay equivalent would be required per animal for horses and colts, mules and colts, and dairy cattle over two years old; three tons for beef cattle, two for dairy cattle under two years old, and .65 ton for sheep and lambs. The results are set forth in one of the attached tables by classes of livestock by states and regions.

The supplies of hay were estimated for tame and wild hay separately. This was done by multiplying the average acre yield of each for the 10-year period (1930-39) by the appropriate acreage by states. The hay equivalent from plowable pasture was determined by assuming that the yield from this source would be equivalent to that from wild hay. The acreage of plowable pasture multiplied by the wild hay yield gave the yield for plowable pasture. The production of silage was obtained from the Census Report and reduced to a hay equivalent basis by taking 30 percent of silage tonnage reported.

In calculating the yield for non-plowable pasture, it was assumed that there was a relation between the dollar-acre value of land and its productive capacity. Proceeding on the assumption that the yield of wild hay would be about equal to that for plowable pasture, it was necessary to determine the ratio between the value of plowable and non-plowable pasture land before a yield could be obtained for non-plowable pasture. This was done by determining the value of plowable pasture and non-plowable pasture land (exclusive of improvements) by the size of farm groups listed in the Agricultural Census.

The median price per acre for the size of farm classes was used as the value of average cropland in the state. The lowest price per acre for any size of farm class was used as the value of non-plowable pasture land.

The ratio between these two prices was assumed to be a rough estimate of the ratio between the productivity of average cropland, which also includes plowable pasture, and the productivity of non-plowable pasture land. This ratio multiplied by the yield per acre of wild hay, gives the figure which was used as the yield per acre on non-plowable pasture land. The total yield from non-plowable pasture land was then obtained by multiplying the number of acres of such land by this estimated yield per acre.

The calculations for the state of Idaho are cited below as an example:

Size of Farm	Value Per Acre
Under 3 acres	$ 534
3 to 9 acres	198
10 to 19 acres	119
20 to 29 acres	92
30 to 49 acres	72
50 to 59 acres	72
70 to 99 acres	65
100 to 139 acres	53
140 to 174 acres	39
175 to 179 acres	38
180 to 219 acres	37
220 to 259 acres	35
260 to 379 acres	27
380 to 499 acres	26
500 to 699 acres	21
700 to 999 acres	19
1000 to 4999 acres	13
5000 to 9999 acres	5
10000+	4

The median value is $38.00 per acre.

The lowest value is $4.00 per acre.

Ratio between ave age cropland and non-plowable pasture - 4/38.

4/38 x .94 ton (average per acre yield of wild hay) = .10 ton per acre yield on non-plowable pasture.

22,483,000 acres non-plowable
x .10 ton per acre
2,248,300 tons production on non-plowable pasture.

In establishing a basis for estimating the hay equivalent value of corn stubble, it was found from available research data that a 25-bushel yield of corn produced about 2,025 pounds of roughage. Feeding tests show that not more than one-half of this material is eaten under feed lot conditions. On this basis, it was assumed that not more than one-third of it would be eaten under field conditions. The edible portion divided by 25, the number of bushels of corn, equaled 27 pounds of edible forage per bushel of corn. The average acre yield of corn by states times 27 represents the amount of edible roughage available per acre from this source. The total acreage planted to corn less that harvested for silage, that hogged down, and that harvested by machinery, multiplied by the average acre yield gives the total amount of roughage from this source.

In estimating the amount of roughage from sugarbeets, it was assumed that there would be one ton of leaves for each two tons of beets. It was further assumed that the tops contained 11.4 percent dry matter and they could be reduced to a 12 percent moisture hay equivalent basis by taking six and one-half percent of the sugarbeet yield. The 10-year average production for 1930-39 was used as the yield and the 5-year average acreage planted for 1937-41 as the acreage.

The amount of sweet sorghum forage was based on the 1941 production figure. It was assumed that, for each pound of peanuts threshed, there was produced one pound of peanut vines for hay. The average acre yield of threshed peanuts times the acreage threshed represents the amount of peanut vines available for forage.

In the case of oat straw, it was assumed that there was 1.2 pounds of straw per pound of grain. It was further assumed that only one-half of the oat straw was edible. Six-tenths of the average acre yield of grain times the number of acres harvested for grain indicates the amount of roughage available from this source.

The estimated forage supplies from these sources are given by states and regions in one of the attached tables.

The above outlined procedure does not make proper adjustment for feeder cattle, neither does it account for aftermath in meadows. It is felt by some, however, that the inclusion of oat straw offsets in part at least the latter item. Thus far, no satisfactory means has been evolved to adjust for the former.

Attachments -

ESTIMATED FORAGE SUPPLIES BY STATES AND BY REGIONS 1/ - THOUSANDS OF TONS

State and Region	Hay		Pasture		Silage	Crop Residue					Total
	Tame	Wild	Plowable	Non-Plowable		Corn	Sorghum	Peanuts	Sugar Beets	Oat Straw	
Maine	753	8	294	47	30	3				37	1,170
New Hampshire	359	5	154	55	35	3				5	618
Vermont	1,024	6	358	170	166	8				28	1,770
Massachusetts	473	8	216	84	96	6				6	889
Rhode Island	43	1	29	8	18	1				1	101
Connecticut	373	8	229	110	114	9				5	848
New York	4,750	42	2,502	1,380	1,221	94				248	10,247
New Jersey	373	19	253	48	123	63				14	883
Pennsylvania	2,804	15	1,672	588	630	581				243	6,543
NORTHEAST	10,862	108	5,718	2,510	2,433	768				588	23,075
Illinois	3,276	19	4,048	560	587	2,574	10		2	884	12,060
Indiana	2,257	4	3,295	270	173	1,464	8		4	368	7,843
Iowa	4,270	125	6,805	2,408	587	3,488	87		3	1,374	18,248
Michigan	3,429	14	2,416	149	574	430			74	357	7,443
Minnesota	4,480	1,197	2,888	655	1,470	1,091	32		17	1,217	12,858
Missouri	3,360	154	8,871	319	197	1,361	417			477	15,156
Nebraska	1,280	1,865	2,354	1,768	253	1,416	707		54	371	10,068
Ohio	3,043	5	3,828	429	337	1,195			27	358	9,023
South Dakota	565	1,348	3,436	1,032	184	415	899		7	518	8,214
Wisconsin	5,624	110	2,885	548	2,688	517	2		9	811	13,216
NORTH CENTRAL	31,584	4,841	40,448	8,138	7,171	13,951	1,962		197	6,835	115,128
Delaware	94	1	88	12	8	48				1	253
Maryland	554	3	529	72	83	199				11	1,451
Virginia	1,488	8	2,588	422	138	418	4	95		36	5,195
West Virginia	842	18	1,220	209	45	148				21	2,504
North Carolina	1,235	18	1,230	42	42	589	25	188		76	3,445
Kentucky	1,738	27	5,765	28	44	835	82			15	8,612
Tennessee	2,078	33	2,757	99	75	850	64	7		40	6,011
EAST CENTRAL	8,027	108	14,185	882	435	3,190	165	290		200	27,472
Alabama	975	31	1,738		32	548	32	251		57	3,663
Arkansas	1,442	158	2,491		10	428	110	22		81	4,742
Florida	85		450	25	10	87		45		5	707
Georgia	990	24	1,271	150	17	486	44	426		143	3,551
Louisiana	472	23	1,587	81	8	297	17	6		40	2,531
Mississippi	1,307	58	2,613	216	46	571	35	15		106	4,865
Oklahoma	1,722	464	3,447	2,413	129	361	1,508	213		243	10,500
South Carolina	816	7	507	63	14	291	21	33		176	2,028
Texas	1,584	182	12,448	16,017	168	1,136	3,725	296		430	35,986
SOUTHERN	9,483	945	26,453	18,965	434	4,203	5,492	1,307		1,281	68,573
Arizona	732	4	240	2,453	29	5	8			8	3,479
California	4,802	221	5,092	1,937	94	16		1	150	127	12,440
Colorado	1,531	372	4,543	2,474	163	99	377		144	52	9,755
Idaho	2,176	133	841	2,698	33	17			58	54	6,010
Kansas	1,380	558	5,483	2,872	1,018	526	2,674		6	350	14,876
Montana	1,888	803	3,771	7,748	8	12	8		64	112	14,010
Nevada	382	228	388	4,427	3	1				4	5,434
New Mexico	414	15	1,686	3,715	26	32	194	2		8	6,092
North Dakota	880	1,405	2,845	1,954	129	129	115		8	372	7,748
Oregon	1,647	256	1,263	2,482	41	14			10	126	5,849
Utah	1,000	79	435	1,970	44	3			41	13	3,585
Washington	1,850	54	1,113	1,375	35	10			12	109	4,538
Wyoming	715	327	1,138	4,496	8	8	8		34	35	6,769
WESTERN	18,297	4,253	28,639	40,609	1,630	872	3,384	3	528	1,370	100,585
TOTALS	79,353	10,255	115,444	71,104	12,103	22,982	10,893	1,600	725	10,274	334,833

1/ Acreage figures for tame hay, corn, peanuts, sugar beets and oats are suggested goals for 1944; for wild hay are for 1943; for plowable and non-plowable pasture are for 1939.

10-year average (1832-1941) yields per acre were used for estimating production of: tame hay, wild hay, plowable pasture, peanuts, sugar beets, oats, and corn.

Yield per acre of non-plowable pasture was estimated by determining the ratio between the dollar per acre value of plowable and non-plowable pasture land and multiplying this by the yields for wild hay.

Estimates of Forage Production:

(1) Silage - corn and sorghum production for 1943. Grass silage for 1838. Multiplied by 30 percent to adjust for moisture content.
(2) Corn - At the rate of 27 pounds forage per bushel of corn.
(3) Sorghum - 1943 production of sorghum for forage.
(4) Peanuts - At the rate of one ton forage per ton peanut production. 1943 production.
(5) Sugar beets - At the rate of 6.5% of sugar beet production.
(6) Oat Straw - At the rate of 3/5 of oat grain production.

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Forage Requirements - Estimated on Basis of Livestock Numbers for Each State, as of January 1, 1944 1/

State and Region	Horses and Colts		Mules and Colts		Sheep and Lambs		Beef Cattle		Milk Cows and Heifers		Dairy Stock Under 2 Years of Age		Total
	Number of Animals (000)	Forage Requirements (000 Tons)	Number of Animals (000)	Forage Requirements (000 Tons)	Number of Animals (000)	Forage Requirements (000 Tons)	Number of Animals (000)	Forage Requirements (000 Tons)	Number of Animals (000)	Forage Requirements (000 Tons)	Number of Animals (000)	Forage Requirements (000 Tons)	(000 Tons)
Maine	35	140			43	28	21	63	125	600	71	142	873
N. H.	13	52			11	7	14	42	71	284	35	70	455
Vt.	42	168			22	14	23	69	298	1,184	131	262	1,697
Mass.	19	76			8	5	10	30	135	540	50	100	751
R. I.	2	8			2	1	1	3	23	92	8	12	116
Conn.	16	64			7	5	10	30	132	528	44	88	715
N. Y.	267	1,068	4	16	341	222	139	417	1,441	6,784	582	1,184	8,851
N. J.	25	100	3	12	9	6	15	45	166	820	45	90	873
Pa.	232	928	38	152	366	238	226	678	924	3,898	467	914	8,806
N. E.	651	2,604	45	180	809	526	459	1,377	3,302	13,208	1,421	2,842	20,737
Ill.	417	1,688	54	216	807	625	1,415	4,246	1,180	4,720	649	1,298	12,672
Ind.	251	1,004	38	152	783	509	749	2,247	816	3,284	367	734	7,910
Iowa	812	2,448	31	124	1,915	1,225	3,350	10,050	1,560	6,240	874	1,348	21,455
Mich.	279	1,115	4	16	894	581	436	1,308	1,059	4,236	541	1,082	8,339
Minn.	539	2,168	9	36	1,460	949	1,108	3,324	1,900	7,600	865	1,726	15,791
Mo.	519	2,076	172	688	1,873	1,087	1,874	5,822	1,115	4,460	497	994	14,927
Nebr.	449	1,796	36	144	1,248	811	2,793	8,379	716	2,864	581	762	14,756
Ohio	343	1,372	20	80	2,053	1,334	832	1,896	1,138	4,552	536	1,072	10,306
S. Dak.	327	1,308	3	12	2,223	1,445	1,474	4,422	545	2,180	348	896	10,063
Wis.	451	1,804	4	16	514	334	338	1,014	2,528	10,104	1,085	2,168	15,438
N. C.	4,187	16,748	371	1,484	13,570	8,820	14,169	42,507	12,555	50,220	5,939	11,878	131,657
Del.	12	48	8	24	2	1	6	18	39	156	16	32	279
Md.	73	292	20	80	52	34	62	186	216	884	88	176	1,632
Va.	161	844	85	340	353	229	386	1,158	474	1,896	198	398	4,665
W. Va.	96	384	10	40	407	266	274	822	248	984	90	180	2,676
N. C.	85	340	295	1,180	56	36	176	528	403	1,812	173	348	4,042
Ky.	231	924	205	820	930	605	575	1,725	838	2,544	227	454	7,072
Tenn.	170	680	288	1,152	393	266	660	1,880	668	2,884	273	546	8,977
E. C.	828	3,312	909	3,636	2,193	1,425	2,039	8,117	2,680	10,720	1,085	2,130	27,340
Ala.	66	264	294	1,176	38	25	491	1,473	458	1,824	308	618	5,378
Ark.	194	778	245	980	103	67	463	1,389	525	2,100	327	654	6,966
Fla.	20	80	35	140	23	15	908	2,724	128	512	100	200	3,671
Ga.	38	152	316	1,264	18	10	471	1,413	407	1,828	237	474	4,941
La.	152	608	174	696	258	168	814	2,442	345	1,380	207	414	5,708
Miss.	116	460	353	1,412	71	48	800	1,800	591	2,364	297	594	8,676
Okla.	351	1,404	117	468	330	215	1,683	5,049	921	3,884	550	1,100	11,920
S. C.	22	88	185	740	5	3	107	321	186	744	99	198	2,094
Tex.	588	2,352	400	1,600	10,339	8,720	5,482	16,446	1,578	8,312	809	1,218	34,648
South	1,546	6,184	2,119	8,478	11,183	7,269	11,019	33,057	5,137	20,548	2,734	5,488	81,002
Ariz.	68	272	8	24	888	447	905	2,715	52	208	30	80	3,726
Calif.	157	628	21	84	2,822	1,834	1,386	4,158	786	3,144	441	882	10,730
Colo.	205	820	10	40	2,602	1,891	1,540	4,620	251	1,004	129	258	8,433
Idaho	162	648	4	16	1,801	1,041	534	1,602	269	1,076	149	298	4,681
Kans.	375	1,500	48	192	974	633	2,797	8,391	841	3,364	401	802	14,882
Mont.	252	1,008	2	8	3,790	2,464	1,463	4,389	170	680	94	188	8,757
Nev.	37	148	1	4	662	430	384	1,152	22	88	16	32	1,854
N. Mex.	113	452	10	40	2,108	1,370	1,294	3,882	83	332	43	86	6,182
N. Dak.	314	1,258	2	8	1,058	688	896	2,688	808	2,432	330	660	7,752
Oreg.	117	468	4	16	1,217	791	741	2,223	284	1,138	157	314	4,948
Utah	84	336	1	4	2,429	1,579	328	984	121	484	66	132	3,519
Wash.	111	444	4	16	491	319	425	1,275	378	1,504	209	418	3,976
Wyo.	123	492	2	8	3,521	2,289	945	2,836	70	280	37	74	5,978
West	2,118	8,472	115	460	23,983	15,576	13,638	40,914	3,933	15,732	2,102	4,204	85,358
Total	9,330	37,320	3,559	14,236	51,718	33,616	41,324	123,972	27,807	110,428	13,281	28,522	348,094

1/ The estimated forage requirements were arrived at by assuming that an animal unit for dairy and beef cattle, horses, and mules consumed forage equivalent to 4 tons of hay per year. The rate for sheep was .86 ton per year, and that for young stock under 2 years was 2 tons per year. These figures were obtained from Beltsville Research Center and the Bureau of Dairy Industry.

The weighting used in computing the animal units is that suggested in Agricultural Statistics, 1942, Table 583, page 456, footnote 1 - Horses and mules 1.00; milk cows 1.00; beef cattle .75. Numbers of sheep and of young stock under 2 years of age were not reduced to animal units, instead the rates of .85 per animal (for sheep) and of 2 tons per animal (for young dairy stock) per year, were used in computing forage requirements.

Numbers of animals on farms, January 1, 1944, were taken from: U.S.D.A., B.A.E. Release 2-18-44, "Livestock on Farms, January 1."

Conservation Programs Branch
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Estimated Deficits or surpluses of Forage; Amount of 18% Superphosphate Required to Apply 100 pounds per Acre Annually to the Tame Hay, Plowable Pasture, and Cover Crop Land in the Humid Section and the Irrigated Hay, Pasture, and Winter Legume Cover Crop Land in the Semi Arid-Section; Amount of Forage Produced by the Superphosphate; and the Amount of Forage that could be Substituted for Concentrates by States, Regions and the Nation.

State and Region	Deficits or Surpluses of Forage (1,000 Tons)	18% Superphosphate Needed to Apply 100 Lbs. Per Acre Annually (1,000 Tons)	Forage Produced From Superphosphate (1,000 Tons)	Amount of Forage That could be Substituted for Concentrates (1,000 Tons)
Maine	+ 297	60	324	215
New Hampshire	- 161	26	140	122
Vermont	+ 73	65	351	505
Massachusetts	+ 138	29	157	307
Rhode Island	- 15	3	16	55
Connecticut	+ 131	24	130	285
New York	+ 1,596	329	1,777	2,127
New Jersey	+ 20	22	119	670
Pennsylvania	- 63	214	1,156	3,721
Northeast	+ 2,338	772	4,170	8,007
Illinois	- 612	377	2,036	11,817
Indiana	- 67	278	1,501	6,770
Iowa	- 2,207	471	2,543	17,724
Michigan	- 896	279	1,507	2,765
Minnesota	- 2,933	301	1,625	8,845
Missouri	+ 229	637	3,440	5,830
Nebraska	- 4,688	6	32	6,831
Ohio	- 1,283	363	1,960	6,313
South Dakota	- 1,849	1	5	3,527
Wisconsin	- 1,223	328	1,771	5,331
North Central	- 16,529	3,041	16,420	75,753
Delaware	- 26	10	43	269
Maryland	- 181	54	281	880
Virginia	+ 533	243	1,253	1,470
West Virginia	171	143	767	641
North Carolina	- 597	158	718	2,195
Kentucky	+ 1,540	426	2,236	2,368
Tennessee	- 966	293	1,507	2,445
East Central	+ 132	1,327	6,805	10,268
Alabama	- 1,715	200	940	2,059
Arkansas	- 1,224	213	1,064	1,628
Florida	- 2,964	40	216	419
Georgia	- 1,390	181	896	1,833
Louisiana	- 3,177	118	497	998
Mississippi	- 1,811	241	1,031	1,921
Oklahoma	- 1,400	5	16	2,287
South Carolina	- 66	101	513	1,115
Texas	+ 1,338	127	648	5,328
Southern	- 12,429	1,226	5,821	17,588
Arizona	- 247	10	54	102
California	+ 1,710	68	367	1,080
Colorado	+ 1,322	71	383	1,190
Idaho	+ 1,329	53	286	647
Kansas	- 6	1	5	4,109
Montana	+ 5,273	54	292	639
Nevada	+ 3,580	33	178	44
New Mexico	- 70	8	43	267
North Dakota	+ 16	--	--	2,138
Oregon	+ 901	37	200	444
Utah	+ 66	31	167	292
Washington	+ 562	14	76	507
Wyoming	+ 791	50	270	265
Western	+ 15,227	430	2,321	11,724
TOTALS	- 11,261	6,796	35,537	123,340

Conservation Programs Branch
Office of Production
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ESTIMATED FORAGE REQUIREMENTS, SUPPLIES AND SURPLUSES OR DEFICITS - BY STATES AND REGIONS

State and Region	Requirements (1,000 Tons)	Supplies (1,000 Tons)	Deficits or Surpluses (1,000 Tons)
Maine	873	1,170	+ 297
New Hampshire	455	616	+ 161
Vermont	1,697	1,770	+ 73
Massachusetts	751	889	+ 138
Rhode Island	116	101	- 15
Connecticut	715	846	+ 131
New York	8,651	10,247	+ 1,596
New Jersey	873	893	+ 20
Pennsylvania	6,606	6,543	- 63
NORTHEAST	20,737	23,075	+ 2,338
Illinois	12,672	12,060	- 612
Indiana	7,910	7,843	- 67
Iowa	21,455	19,248	-- 2,207
Michigan	8,339	7,443	- 896
Minnesota	15,791	12,858	- 2,933
Missouri	14,927	15,156	+ 229
Nebraska	14,756	10,068	- 4,688
Ohio	10,306	9,023	- 1,283
South Dakota	10,063	8,214	- 1,849
Wisconsin	15,438	13,215	- 2,223
NORTH CENTRAL	131,657	115,128	-16,529
Delaware	279	253	- 26
Maryland	1,632	1,451	- 181
Virginia	4,663	5,196	+ 533
West Virginia	2,675	2,504	- 171
North Carolina	4,042	3,445	- 597
Kentucky	7,072	8,612	+ 1,540
Tennessee	6,977	6,011	- 966
EAST CENTRAL	27,340	27,472	+ 132
Alabama	5,378	3,663	- 1,715
Arkansas	5,966	4,742	- 1,224
Florida	3,671	707	- 2,964
Georgia	4,941	3,551	- 1,390
Louisiana	5,708	2,531	- 3,177
Mississippi	6,676	4,865	- 1,811
Oklahoma	11,920	10,500	- 1,420
South Carolina	2,094	2,028	- 66
Texas	34,648	35,986	+ 1,338
SOUTHERN	81,002	68,573	-12,429
Arizona	3,726	3,479	- 247
California	10,730	12,440	+ 1,710
Colorado	8,433	9,755	+ 1,322
Idaho	4,681	6,010	+ 1,329
Kansas	14,882	14,876	- 6
Montana	8,737	14,010	+ 5,273
Nevada	1,854	5,434	+ 3,580
New Mexico	6,162	6,092	- 70
North Dakota	7,732	7,748	+ 16
Oregon	4,948	5,849	+ 901
Utah	3,519	3,585	+ 66
Washington	3,976	4,538	+ 562
Wyoming	5,978	6,769	+ 791
WESTERN	85,358	100,585	+15,227
TOTALS	346,094	334,833	-11,261

Conservation Programs Branch
Office of Production
April 1, 1944 (Revised)